



Steel Piling Group | Case Study

Maritime | Highway | **Rail** | Buildings | Sustainability | Specialist Work

WHITE HORSE BRIDGE

WEMBLEY STADIUM STATION, LONDON (2006)



Main contractor Edmund Nuttall Ltd, were awarded a challenging contract to construct a new bridge and associated infrastructure, to service the new national stadium. An additional challenge was to cause minimal disruption to the railway line, local businesses and residents during construction. Dawson Contract Piling were awarded seven different subcontracts to carry out a wide variety of sheet pile installation and extraction works. For some applications innovative equipment was developed and new methods of working had to be implemented with safety paramount.

The work was carried out successfully and safely, well ahead of schedule. This allowed the main contractor to complete the possession and return the line to Chiltern railways well ahead of schedule.



Technical Specifications

Much of the work was carried out at night or with weekend railway possessions. Pictured here is a 50-hour weekend possession to install nearly 400 No x 9.5m long x L604 piles to form a safety barrier between the works area and the railway line. Ground conditions comprised stiff London clay with cohesions in excess of 150kN/m². Three ABI telescopic leader rigs were used to pre-auger and then to drive the sheets using 92.5t variable moment resonance free vibrators.

Two 80t mobile cranes and two excavators were also used to move equipment, build access ramps and provide piling platforms. Pre-augering was carried out at night and vibratory driving was carried out during the day to limit disturbance.

Summary of Soil Conditions

Layer	Depth Range of Soil units (m BML)		Soil Description
	Top	Base	
1	0.0	1.2	Mixed soil - Soft to firm
2	1.2	2.2	Sandy Clay - London Clay Formation
3	2.2	3.2	Clay - London Clay Formation
4	3.2	-	Clay - London Clay Formation

